

Crossing the quality chasm: lessons from health care quality improvement efforts in England

RAJAN MADHOK, MB, MSc, FRCS, FFPHM

The second report from the US Institute of Medicine, *Crossing the Quality Chasm*, highlighted the deficiencies in health care quality in the USA, analyzed the contributory factors, and proposed 13 recommendations for improvements. Clearly, the challenges are enormous. Can anything be learned from the experiences of other countries? This article describes the author's experiences of health care quality improvement efforts in the National Health Service in England and their implications for the USA and for Baylor Health Care System.

The US health care system has been at the forefront of health care quality improvement (QI) efforts for over a century. Dr. Ernest Amory Codman (1869–1940), a physician at the Massachusetts General Hospital in Boston, was among the first in the developed world to highlight the problem of poor quality in health care. He subsequently set a standard for open, honest, and public evaluation of the end results of medical and hospital care (1). Since then, much work has been done in the USA by independent think tanks such as the Rand Corporation, governmental agencies such as the Joint Commission on Accreditation of Healthcare Organizations and the Agency for Healthcare Quality and Research, and various professional societies.

But has that effort translated into real improvements? Has the US health care system moved on from the time of Dr. Codman and, if so, how far has it gotten? In 1914, Dr. Codman said:

You hospital superintendents are too easy. You work hard and faithfully reducing your expenses here and there—a half-cent per pound on potatoes or floor polish. And you let the members of the [medical] staff throw away money by producing waste products in the form of unnecessary deaths, ill-judged operations and careless diagnoses, not to mention pseudo-scientific professional advertisements.

Clearly, progress has been made, and there are many examples of excellence in the US health care system. However, 2 recent reports from the Institute of Medicine (IOM) suggest that there is a long way to go before Americans can enjoy safe and clinically effective services (2, 3).

The first report, *To Err is Human*, estimated that nearly 44,000 Americans die each year as a result of medical errors. More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516). Total national costs of preventable adverse events were estimated to be between \$17 billion and \$29 billion.

The second IOM report, *Crossing the Quality Chasm*, asked for a fundamental change, recommending that the delivery of

health care in the 21st century be based on 6 key dimensions:

- Safety—avoid injury to patients from the care that is intended to help them
- Timeliness—reduce waits and harmful delays
- Effectiveness—provide services based on scientific knowledge to all who could benefit and refrain from providing services to those not likely to benefit (avoiding overuse and underuse, respectively)
- Efficiency—avoid waste
- Equitability—provide care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographical location, and socioeconomic status
- Patient centeredness—provide care that is respectful of and responsive to individual patient preferences, needs, and values

The report urges all parties—policymakers, purchasers, regulators, health professionals, health care trustees and management, and consumers—to commit to a national statement of purpose for the health care system as a whole and to a shared agenda to pursue the 6 dimensions. It makes 13 recommendations in pursuit of these dimensions. Will the second report succeed? The STEEEP challenge seems rather steep. What can be learned from other countries facing similar challenges?

This article, from a policymaker based in the United Kingdom (UK), may be of value to various stakeholders in the USA, especially given that there are many parallels between what the second IOM report recommends and what has happened in the UK's National Health Service (NHS) over the past few years. The article also reflects the author's observations of the US health care system over the past decade and more recently during a mini-sabbatical. The sabbatical included visits to Baylor Health Care System (BHCS), CIGNA Dallas, and the Mayo Clinic Rochester; the author also joined the Voluntary Hospitals of America (VHA) Chief Executive Officer Group on Clinical Excellence at its session in Chicago.

The article begins by describing the main QI efforts of the NHS. It then discusses 2 fundamental issues for all QI efforts: understanding uncertainty in medicine and understanding doctors. Given the vast agenda for change outlined in the IOM re-

From East Riding and Hull Health Authority, Willerby, Hull, England.

Corresponding author: Rajan Madhok, MB, MSc, FRCS, FFPHM, East Riding and Hull Health Authority, Willerby, Hull HU10 6DT, England (e-mail: rajan.madhok@eriding-ha.northy.nhs.uk).

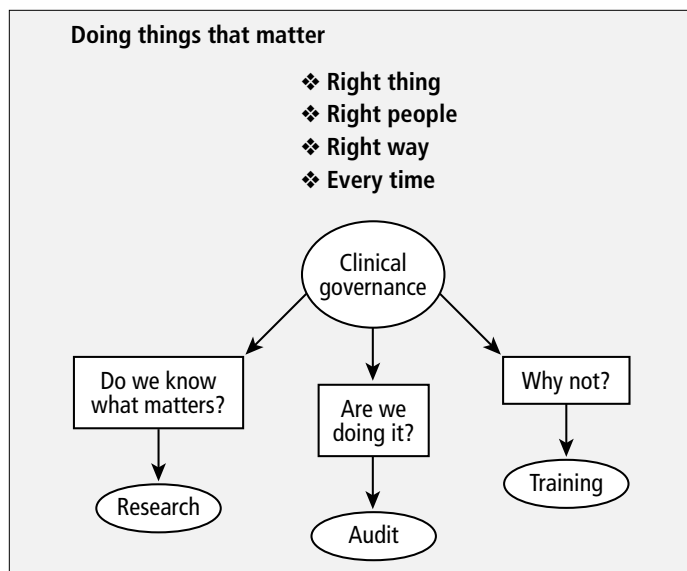


Figure. East Riding and Hull clinical governance (quality improvement) model.

port and given the parallels between the US system and the NHS, the article describes some key lessons. Finally, the article discusses the implications for BHCS as it tries to cross the quality chasm.

QI IN THE NHS

Background

The NHS came into being in 1948 with the aim of providing health care to the population, free at the point of delivery and on the basis of need, to be funded largely by tax revenues. Since then, successive governments have struggled with the burgeoning NHS bill through various means and with varying degrees of success (4). The recently published NHS Plan has as its goal to modernize the NHS for the 21st century (5); Klein has published a good critique of the NHS for the US audience (6).

The NHS has had a strong focus on health care QI, especially since the early 1990s. At that time, there was a fundamental reform of the system when purchasers and providers of care promoted value for money through “managed competition.” To support this reform, emphasis was placed on improving standards of care, and all professionals were mandated to scrutinize their practices through clinical audit. Clinical audit required professionals to look systematically at the procedures used for diagnosis, care, and treatment; to examine how associated resources were being used; and to investigate the effect care had on the outcome and quality of life for the patient (7). Various national and regional initiatives were launched to support these efforts.

Since 1997, the emphasis on the purchaser-provider separation has changed; the internal market idea has been abandoned, and more collaboration between various parts of the NHS system is being encouraged. However, the emphasis on quality has increased (8). The concept of clinical governance has been introduced, and all NHS organizations are required to ensure robust arrangements for it. Unlike clinical audit, which was a professional-only activity, clinical governance requires professionals to work with managers, and the chief executives are directly accountable to the policymakers for the program. Clinical governance is “a framework through which NHS organisations

are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish.”

What should we make of all these efforts over the past decade? Are health care QI efforts making a difference in the NHS?

National experience

Awareness of health care quality has been heightened in the UK. The principles of clinical governance have been firmly embraced by all participating organizations, and appropriate structures and processes have been put into place. A lot has happened at the national level through the efforts of the government, the medical profession, and the NHS (9). The 6 key dimensions of the second IOM report are being addressed through various initiatives in the NHS; the appendix lists some of the key elements of the national QI efforts.

Local experience

Much improvement has also resulted from these efforts locally; the results in the author’s area have been published (10). A brief account is given here.

Since 1998, a “whole-systems” approach to QI has been in operation. A simple yet comprehensive framework has been devised, the aim being “doing things that matter.” The framework incorporates the 3 main elements of research, audit, and training (*Figure*). Overall, QI efforts are intended to make quality part of everyday business; adopt a systematic approach linked to local policy and planning functions; change systems to improve quality; invest in the longer term; support individuals; and work together to maximize value for money from available resources.

In addition to progress with the infrastructure, tangible outcomes have resulted. Some specific examples follow. First, a discrete project was recently completed to examine medication errors in the local neonatal unit and to put corrective procedures in place. No new errors were identified in the 6 months after these procedures were implemented. The model is being rolled out into other areas of hospital practice. Second, in general practice, the prescription of antibiotics declined by 8.5% during the period of 1999 to 2000. Third, a comprehensive scheme was introduced in April 1999 to identify and provide annual health checks and necessary treatment for all patients in the area known to have ischemic heart disease. The scheme has been implemented in 97% of general practices in the area with substantial clinical benefits for patients: risk factors and associated diseases are being identified and appropriate action initiated, including improved prescribing of statins, beta-blockers, and aspirin. Fourth, the cervical cancer screening program has been thoroughly evaluated to ascertain possible causes for deaths, and effective action has been undertaken to reduce any preventable deaths (*Table 1*).

FUNDAMENTAL CHALLENGES FOR HEALTH CARE QI

It will be a long time before we all see the high-quality and safe services that we would aspire to for our family members. Claims and counterclaims about the extent of the problem are being made by patients’ and professionals’ advocates. Separating truth from fiction is difficult. Before prescribing solutions, it is essential to reflect on 2 fundamental challenges, as follows.

Table 1. Possible explanations for deaths due to cervical cancer in East Riding and Hull area and proposed actions to prevent potential deaths

Possible explanations	Estimated extent	Proposed action
Nonattenders	11% of invitees in 1998	Target payment scheme
Inadequate smears	18% deaths	Smear-taker identification
Diagnostic problems	12% deaths	Better checking procedure
Communication delays	?	Review procedures and introduce notification letters
Poor treatment	?	Treatment audit
Recurrent cancers	2% deaths	? Review screening interval
Untreatable cancers	68% deaths	Case reviews

Understanding medicine

Medicine is not an exact science. There are inherent uncertainties and consequent risks. To confuse these risks with errors is unhelpful to professionals, just as condoning errors because of risks jeopardizes people's lives. Take an everyday occurrence in the health service—a patient receives a test: it may be a blood test, a cervical smear, an x-ray, or any other investigation. What can be expected from the test? Four outcomes are possible.

An outcome is true positive when the patient has the condition and the test result shows it; an outcome is true negative when the patient does not have the disease and the result confirms this. These are helpful outcomes and what doctors and patients would like to know. However, there are instances when the test result is false positive, that is, the result is positive although the patient does not have the condition, or false negative, when the result is negative but the patient has the condition.

Much of the time, doctors do not know which category the result belongs to. They rely on mathematical estimates of probabilities, not always from well-conducted scientific studies, and on intuition and experience. Furthermore, the test result is only one step in the management of the patient's condition. All such steps in the patient's journey through the medical system have their own uncertainties.

This uncertainty in medicine creates an underlying risky situation to which patients are exposed when they receive medical care. In addition, the history of medicine is full of instances when procedures done in good faith or on the basis of contemporary knowledge proved to be ineffective or harmful (11).

Finally, despite best intentions and efforts, things do go wrong in medicine. Almost all medications have side effects, even everyday remedies like aspirin and acetaminophen. An average of 500 acetaminophen-related deaths occurred each year in England and Wales during the mid 1990s (12). Nearly 1 in 20 patients require hospital readmission within 28 days of everyday operations such as appendectomy and hip replacement (13, 14).

Understanding doctors

As in any other part of society, some doctors are "bad." Even Hippocrates, the father of medicine, remarked on the phenomenon:

Medicine is of all the arts the most noble; but, owing to the ignorance of those who practice it, and of those who, inconsiderably, form a judgment of them, it is at present far behind all the other arts. Their mistake appears to me to arise principally from this, that in the cities there is no punishment connected with the practice of medicine (and with it alone) except disgrace, and that does not hurt those who are familiar with it. Such persons are the figures which are introduced in tragedies, for as they have the shape, and dress, and personal appearance of an actor, but are not actors, so also physicians are many in title but very few in reality (15).

He then went on to outline what he considered to be the essential qualities of physicians. Medicine has come a long way since then, and doctors everywhere are bound by the Hippocratic Oath with its commitment to caring for the sick, preserving confidentiality, and remaining loyal to the profession.

Most doctors do take account of advances in technology and science—policies are reviewed and new guidelines promulgated regularly. It is possible that sometimes the guidance is not properly implemented and errors are committed or there are delays in acting on the latest advances. There are arrangements to monitor these situations and take corrective action including penalties where appropriate.

So what has happened? Is it true that modern medicine, once hailed as the greatest benefit to mankind (16), has become a dangerous activity? Have doctors turned bad? Become uncaring, interested only in money? Closed ranks and started covering for each other? Forgotten their vocation, become hypocrites pretending to be true to the Hippocratic Oath?

There is no denying that all these statements contain grains of truth. Some doctors have continued to use outmoded practices, have not been self-critical or undertaken enough audits, and have made repeated mistakes. Some have been arrogant and not respected patients' wishes or, indeed, the law. Some have even done things for financial gain. There have been cover-ups, too.

What is not correct, however, is that all doctors have turned bad and uncaring and that the profession as a whole has closed ranks. Doctors and their leaders agree that there is a problem. The public, the politicians, and the media rightfully need an explanation, and more importantly action, to restore their faith in doctors and ensure safe medical practices. Organized medicine and individual doctors are also taking necessary steps to improve the status quo. It is not an easy task, however.

Medicine is a highly stressful occupation. Most doctors worry about, and many have difficulty in dealing with, medical errors in the present culture of perfection. Many doctors develop stress-related symptoms: nearly 1 in 20 general practitioners in the UK have been known to suffer from anxiety. Nearly 1 in 4 general practitioners and hospital consultants have increased their alcohol intake because of stress, according to a recent study (17). Rates of deaths due to alcohol-related disorders and suicides are almost 3 times as high among physicians as in the general population. Doctors also face genuine difficulties in addressing errors, many of which are rooted in the nature of medicine and the inadequate system in which they practice. Most inquiries of medical errors show a failure of the system rather than any one individual.

THE WAY FORWARD FOR HEALTH CARE QI IN THE USA:
REASONS TO BE CAREFUL

All health care systems are struggling in the face of increasing demands and the need to contain costs and improve health care quality. How useful is the NHS experience to the US health care system? After all, the British NHS is a “socialized” and national model while the US system is market oriented and fragmented. The NHS clearly has many advantages: universal and comprehensive coverage, the distinct population focus, its primary care base, “controlled” access to specialist services whereby general practitioners refer patients to specialists, planning mechanisms for not just health facilities but also workforce, the emphasis on effectiveness and efficiency, and the strong societal values and support for the NHS.

QI efforts in the UK are more advanced, with high levels of awareness and commitment, because many of the enabling conditions have been met. National efforts have created the environment necessary for the cultural change and provided the infrastructure to deliver the 6 dimensions identified in *Crossing the Quality Chasm*. Some improvements have already taken place on a population level.

Notwithstanding these differences, the lessons from the NHS are highly relevant given that answers to ensuring quality are the same everywhere. Certain conditions have to be met: an appropriate environment, adequate infrastructure, incentives and penalties, and time. It is not surprising, therefore, that the IOM has come up with a solution that mirrors the QI efforts in the NHS.

Lessons from the NHS

Despite tremendous national developments and many examples of good local programs for QI, concerns remain. A recent report from the chief medical officer in England suggests that every year

- 400 people die or are seriously injured in adverse events involving medical devices.
- Nearly 10,000 people are reported to have experienced serious adverse reactions to drugs.
- Around 1150 people who have been in recent contact with mental health services commit suicide.
- NHS pays £400 million to settle clinical negligence claims and has a potential liability of around £2.4 billion.
- Hospital-acquired infections—around 15% of which may be avoidable—are estimated to cost the NHS nearly £1 billion (18).

Media interest in health care is extensive. Recent interest has been triggered by some high-profile incidents, including the case of Dr. Harold Shipman, a general practitioner who has been charged with multiple murders in Greater Manchester, UK, and the incidence of an excessive number of deaths among children undergoing heart surgery in Bristol, UK.

What are the reasons for continuing concerns? The subject is quite complex, but my analysis identifies a number of contributory causes. First, the NHS is overloaded with policy matters and constant outpouring of national guidance. There has been an unprecedented amount of policy material in the NHS relating not just to QI but also to other aspects of the service.

Second, alongside the policy avalanche, there has been structural upheaval. New organizations have been created while old

Table 2. Main national organizations involved with health care quality improvement efforts in England

National Institute for Clinical Excellence
Commission for Health Improvement
National Health Service Modernisation Agency
National Patient Safety Agency
National Clinical Assessment Authority
National Clinical Governance Support Team
General Medical Council
Medical royal colleges and specialist associations

ones were disbanded. These structural changes are exacting a high price by creating uncertainty and anxiety, leading to staff turnover and loss of continuity of work. Specific to the quality agenda are a number of national organizations with overlapping missions and hence confused responsibilities (Table 2).

Third, although there is acceptance of and indeed commitment to creating a supportive and nonpunitive environment, some recent events, and their coverage in the lay press nationally, have not helped. Doctors and their leaders are very worried about this blame culture and its impact on morale.

Fourth, integrating QI efforts into mainstream work and not perpetuating it as a separate activity is easier said than done. This may partly be because of the lack of robust information systems. We are still a long way from the simple medical record that Dr. Codman talked about; he believed that medical records should straightforwardly address the patient’s complaint, the doctor’s response, the result, and the reason for any negative results.

Fifth, QI efforts are being hijacked by experts. A whole new industry has grown up, and the “average” practitioner is getting marginalized. The KISS (keep it simple, stupid) principle for motivating and managing change is being ignored.

Sixth, QI is a long-term program that is being compromised by short-termism. There are few quick fixes in health care, and the sense of urgency demonstrated by the media and the government is only adding to the confusion.

Seventh, current arrangements for QI are not patient centered. Patients journey throughout the various parts of the NHS—from primary care to hospitals and rehabilitation and social care. However, QI arrangements are organization specific and as such merely pass the responsibility from one organization to another, compromising the necessary seamless approach and putting patients at risk. Many parts of the system are also currently uncovered; for example, there are no mandatory requirements for monitoring quality of care in the private health care sector.

Eighth, while cost savings can be achieved through eradicating inefficient practices and pursuing clinically effective services, on the whole appropriate and good-quality health care requires more resources. These are needed not just for supporting the necessary infrastructure—for example, around information systems—but also for providing adequate manpower and the costs of new and effective interventions.

Ninth, there are insufficient levers to promote excellence—in the form of either rewards or sanctions. Monetary rewards are

Table 3. Ten simple rules to redesign and improve care

1. Care based on continuous healing relationships
2. Customization based on patient needs and values
3. The patient as the source of control
4. Shared knowledge and the free flow of information
5. Evidence-based decision making
6. Safety as a system priority
7. The need for transparency
8. Anticipation of needs
9. Continuous decrease in waste
10. Cooperation among clinicians

few; the “merit” award system for hospital doctors (consultants) is secretive and highly controversial and in any case perpetuates the consultant–general practitioner divide, and there are few opportunities to reward other professionals. Equally, there are few sanctions; indeed, basic performance appraisals and management systems elude most health care organizations. Change management in the NHS is not well understood and practiced (19, 20).

Further challenges for US efforts

The case for change is very powerful, and the report prescribes the right solution. The US health care system has been described as a “complex adaptive system” that is a collection of individuals, who though interconnected, have the freedom to act in ways that are not always predictable. An action by one party has implications for others. The way forward, therefore, has to be a concerted action on the part of the whole system with 10 simple rules (*Table 3*).

The main difficulty with the analysis is that it is short on how such a massive change can be delivered. The report is aspirational but does not identify the means for the necessary changes in the highly fragmented and competitive US health care marketplace. How can a win-win situation be created for all parties: the patients, the professionals, the health care organizations, the payors, and the intermediary insurance companies? History shows that all parties will protect and try to enhance their interests through various arrangements, such as health maintenance organizations (HMOs), preferred provider organizations, exclusive provider organizations, and independent physicians associations, for example. Recent attempts to manage the system have been thwarted with a severe backlash against managed care, and medical inflation is soaring again.

Engendering the necessary collaboration in such an environment is a great leadership challenge. The “cottage industry” nature of medicine, whereby most doctors work for themselves, does not allow population-based studies and monitoring of quality; thus, the information base is low. The government and policy-makers have limited influence over health care.

The NHS with its national system and considerable investment in the infrastructure is still at the beginning of the QI revolution. The US health care system faces additional challenges given the reality of US society. Each of the 6 key dimensions poses its own challenge. Thus, for example, defining and proving an error in the highly litigious environment of the USA can

be not only difficult but also costly. What is the difference between a complication and an error? How do we know one has occurred anyway? Can insurance companies deny or reduce payments for these and, if so, under what circumstances? If not, what is the lever for change? Effective care may be seen as too restrictive, and enrollees can show displeasure by changing their insurer. Would patients be happy not to be given antibiotics for a common cold? Would parents accept watchful waiting instead of immediate grommet insertions or tonsillectomy for their children’s symptoms? Is the US public ready for an equitable health care system—given the vast inequalities in its society?

Whether patients, the general public, or the insurance companies in the USA will be able to speed up the process of QI remains to be seen. Patient empowerment offers potential, as shown by a recent survey by the VHA (21). However, given that most Americans rely on employers or federal programs for health benefits, and most of these have cost constraints, the overall impact of the demanding consumer may be limited. Although there are examples of insurers taking the initiative, my impression is that QI is not the driving force in the highly competitive marketplace yet.

The lack of clear and practical recommendations on how to bring about the necessary changes, given the challenges, may be responsible for the lukewarm reception to the report in the USA. Tough decisions are needed to reconcile the access, quality, and cost-control triad for QI efforts. The NHS with its limited budget has paid the price by denying access in order to enhance quality. Concerned with the “political” fallout, given long waiting times for specialist services, the government has recently pledged considerable additional funds for the NHS. In time, it will be interesting to see if the NHS manages to improve health care quality across the range of services at the same time as improving access. On the other hand, access is often the primary consideration in the USA, either in terms of speed or in terms of comprehensiveness, and cost control features low in the priority list. Clinical quality, as opposed to service-related aspects such as physical environment, waiting times, and availability of the new and latest technologies, is not yet a driving force for change. Ultimately the decisions about who should get what and when and how in health care are societal decisions, and there are no discernable signs that the US health care system and Americans are ready to seriously address this conundrum. Progress in the US health care system will, therefore, be slow. A recent editorial by Kelley and Tucci from the Henry Ford Health System supports this view (22). Much work is needed to create the environment for change and the necessary infrastructure for QI in the USA.

IMPLICATIONS FOR BAYLOR HEALTH CARE SYSTEM

I spent only a few days at Baylor, and although I met many people and went on the wards, I do not have sufficient knowledge to give detailed comments. I found high-level commitment and this, coupled with the work being done by many colleagues working in family practice, medicine, and orthopaedic surgery, to name just a few examples that I observed, augurs well for the future. Most of the work, however, is project based around discrete topics, usually through the efforts of enthusiasts; the infrastructure to support QI efforts is limited. Plans are in place,

however, to address the infrastructural issues and integrate QI with policymaking and business planning. I was also interested to note BHCS participation in the VHA Clinical Excellence Program; that program is providing the necessary leadership and, by focusing on a few key subjects, offers considerable scope for QI across the USA.

CONCLUSIONS

Good quality health care, built on the 6 key dimensions of the recent IOM report, should be available to all, by right and not by chance. The report rightly emphasizes urgent action. However, it is also important to put the whole issue of health care quality into context. Panic reactions in stressful situations do not yield the necessary outcomes. Medicine is an inexact field and is being made further unstable by the unrealistic expectations placed on it. With the growth in designer drugs and cosmetic surgery, both the public and professionals have become somewhat cavalier in their approach to medical practice. Supplying a pill for every ill and surgery on demand can only make matters worse given the inherent risky situation in medicine. There is a need for education on both sides and an open system that supports and encourages both doctors and patients. Both parties must have realistic expectations of what modern medicine can achieve.

Good practice outweighs bad practice in medicine, and unless QI efforts are well handled, there is a danger of losing the goodwill and support of hardworking and caring professionals. As I hope this analysis has demonstrated, medicine is not a risk-free endeavor, and it will take time and effort by many parties to ensure high-quality services. Governments and policymakers have an enabling role, but they cannot deliver all the improvements. For the US health care system, the chasm is wide. Doctors currently hold the keys to success, but ways of engaging them are urgently needed. For BHCS, it is important to continue with the existing work; further reinforcing the local infrastructure must be a priority.

Acknowledgments

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APPENDIX:

KEY ELEMENTS OF NATIONAL QI EFFORTS IN THE NHS

Clear standards for professional practice: Standards cover the general context of medical practice (the *Good Medical Practice* document of the General Medical Council, the body that registers doctors) and specialist areas of practice (a wide range of policy documents published by the medical royal colleges and the specialist associations).

National Service Frameworks: Frameworks set standards and targets and describe models of best practice; they already cover coronary heart disease, mental health, and care of older people.

National Institute for Clinical Excellence: This institute was established to produce clear guidance on the clinical efficacy and cost-effectiveness of a wide range of treatments. Guidance from the institute has already benefited many thousands of patients, for example, by ending the "post-code" (i.e., geographical location) lottery for taxane treatment of breast cancer.

National Clinical Governance Support Team: This team is working with NHS Trusts and Primary Care Services to help them establish effective local clinical governance arrangements.

A research and development program: This program will advance the science of medicine and ensure that new clinical evidence is transferred rapidly to the front line of treatment.

Programs of continuing professional development: These programs are being maintained and developed by the medical royal colleges to support individual staff in extending their knowledge, skills, and experience.

Identifying and tackling specific problems: For example, hospital-acquired infection is being addressed through a coordinated set of initiatives including development of national standards, provision of better handwashing facilities, improvements in sterilization practices, and improvements in hospital cleanliness.

Learning from adverse events: In the future, adverse events, medical errors, and near misses will be recognized, analyzed, and reported through a new national reporting system. Learning effective action to reduce risk to future patients will take place within the organization concerned (locally) and at the national level (NHS-wide).

Tackling poor clinical performance: In the future, doctors demonstrating evidence of poor clinical performance will be identified early so that any risks to patients can be reduced. If the problem cannot be evaluated or resolved locally or it is particularly serious, a referral will be made to the new National Clinical Assessment Authority, which will make a thorough objective assessment and give advice to the NHS employer. Educational and training solutions will be used where possible to resolve problems with a doctor's practice.

An integrated approach to investigation: When there are very serious problems in a service or major dysfunction that is compromising safe care, an investigation independent of the local NHS service will be initiated by the Department of Health or by the Commission for Health Improvement. Medical royal colleges and their members and fellows will continue to play an important role in investigations.

Modernisation Agency: This agency will help local clinicians and managers redesign their services around the needs and convenience of patients. The agency will both support and promote service modernization and the development of current and future clinical leaders in the NHS.

Patient forums and patient advocacy and liaison services: These will be established in every NHS Trust.

Commission for Health Improvement: The commission will review the clinical governance arrangements of every NHS organization in a 4-year cycle.

National and local patient surveys: Surveys will be received by the board of every NHS Trust; their results will be used as an integral part of routine performance management of the NHS.

Invited commentaries

Americans occasionally have the good fortune to receive visitors from other lands who are concerned enough with our well-being to provide us with a constructive commentary on their experiences and impressions. The Frenchman Alex de Tocqueville is probably the most conspicuous example. In this edition of *BUMC Proceedings* (1), Dr. Rajan Madhok, a director of health policy and public health for a National Health Service (NHS) district authority, also does us that service. Given his perspective in the British NHS and his familiarity with some of the best of American health care as a result of his postgraduate training at the Mayo Clinic, he is uniquely qualified to do so.

In some respects, this paper is the converse of the editorial that appeared in the *British Medical Journal* in early 2001, in which Mark Kelley and James Tucci of the Henry Ford Health System aired their concerns in a UK publication (2). As it turns out, however, many of their concerns are congruent.

In his paper, Dr. Madhok contrasts the goals set out by the recent Institute of Medicine (IOM) tract, *Crossing the Quality Chasm* (3), with the present state of affairs in Great Britain and the United States. He notes that in many ways the NHS is well positioned to tackle the 6 aims of the report: patient centeredness, equity, effectiveness, timeliness, safety, and efficiency. Population-based health care has been the cornerstone of the program for over

half a century. The organizations and institutions needed to carry out systemwide reform are well established and tested.

Because of public sentiment, a number of quality improvement programs have been developed over the past decade to deal with the perceived shortcomings of the NHS. In fact, many of these parallel the IOM recommendations. This is not surprising because several advisors to the NHS also had key roles with the IOM. Dr. Madhok notes that many important issues still need to be overcome. And, while funding and establishing technical and information infrastructures is daunting, he is even more concerned about the human issues. Will treatment guidelines really work for the vast majority of conditions for which there is no evidence-based care, given the high degree of uncertainty in clinical medicine? Given the wide and often mature spectrum of physicians' personalities and motivations, how will they react to solutions proposed by government agencies?

As he sees it, the plight of quality improvement efforts in the USA is significantly more troublesome. Compared with the NHS, there is no health care "system" in this country. If one discounts the declining fraction of the nation's population cared for in staff and group-model health maintenance organizations (HMOs), care is delivered through a maze of providers and institutions and financed through government and private programs that have no explicit incentives for delivering superior quality care.

In addition to the structural issues, he points out some of the cultural issues that distinguish the American environment. For every proponent of change or intervention, there is certain to be a vocal adversary. The contest can take the form of individual challenges, as in the case of HMO decisions, or in more extreme cases, litigation. The key ingredient of an egalitarian system is trust in institutions—a strong element in most national health programs but in steady decline in this country.

Inequality also poses a significant barrier. A fundamental tenet of performance improvement is the identification and reduction of variance. How do we tackle variance in a nation where 1 person out of 6 is uninsured? We still debate the question, "Is health a right to be celebrated by all, or is it a perquisite of employment and good fortune?" The issue has been settled in most

industrialized countries but remains contentious in America. How do we move forward until it is resolved?

We continue to promote the notion of a market-based health care system. Nonetheless, the power of superior clinical quality to influence consumers and purchasers is suspect. Most consumers have little interest in health care quality until they or members of their family have a need. Even then, they frequently have limited access to the information required and limited time to make an informed choice of provider. Thus, the potential of increased market share is not likely to impel investment in clinical quality improvement. And, of course, the government programs and private insurance plans that support virtually all health care financing make no distinction in payments for good and bad care.

Finally, Dr. Madhok comments on the state of current clinical improvement efforts. As he points out, most of these efforts are highly focused, oftentimes reflecting the interests of what he calls "enthusiasts." For sure, "enthusiasts" have made significant contributions in the area over time. Perhaps the best example has been the transformation of anesthesia service into one of the safest areas in health care. While laudable, these efforts have limited potential to cause the sort of sea changes the IOM report envisions. Those of us in the health care industry need to find ways to make clinical quality improvement an integral component of everyone's work. This means investments in people, technology, and processes. Most importantly, it means the support of our leaders and their commitment to a level of vigilance that goes beyond their personal tenure.

As we move forward in that effort, it is a comfort to know that friends abroad, of which Dr. Madhok is a sterling example, care enough about our efforts and our prospects to share their insights and their expertise. Thanks, Rajan, and please come again!

—KENNETH SMITHSON, MD
VHA Inc., Irving, Texas

Even though it is talked and written about incessantly, quality health care has no readily available, accepted, and specific definition. For many, quality health care is like beauty or pornography—they know it when they see it but they just can't define it. Yet, a widely accepted and specific definition of quality health care is required for its assessment and promotion, and a lack of this definition makes these impossible. The sum and substance, then, is "What is an acceptable and specific definition of quality health care?"

Quality cannot be measured. A "measured quality" is a quantity and no longer a quality. What we can measure are attributes that are consistently (but not invariably) associated with quality. In this sense, outcomes measurement is an approach to defining quality health care. Outcomes measurement assumes that consistently good outcomes can come from only quality health care. We know now (such as with the use of antibiotics for in-

fluenza) that this is not necessarily true. So, good outcomes are insufficient to define quality health care.

Another approach is evidence-based medicine. Its proponents hold that if processes proven by clinical studies are widely applied, predictable outcomes can be expected. These processes and outcomes combined would then define quality health care. The problem with evidence-based medicine is that there is no evidence that evidence-based medicine improves outcomes or delivers quality health care to other than the study population. This is because evidence-based medicine is grounded in clinical studies that purposely exclude many participants to gain homogeneous study populations. These studies are then applied to widely heterogeneous general populations, most of whom would not have qualified to participate in the study being applied. The results are then expected to be the same. There is no evidence that this is so. Hence, until there is evidence that it improves

1. Madhok R. Crossing the quality chasm: lessons from health care quality improvement efforts in England. *BUMC Proceedings* 2002;15:77–83.
2. Kelley MA, Tucci JM. Bridging the quality chasm. *BMJ* 2001;323:61–62.
3. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press, 2001.

outcomes in the general populations, evidence-based medicine cannot define quality health care.

A third methodology for assessing quality health care is measuring patient satisfaction. Due to the complex science and art of health care, patients can determine satisfaction only with their provider interactions and the outcome. Patients cannot know if the services received were indicated or whether they had anything to do with the outcome. For example, many patients still demand antibiotics for influenza since their use by a trusted provider in the past had “improved” their outcomes. It’s hard to overcome “success” even if misattributed. Thus, a patient satisfaction-based definition of quality health care is fallacious and wrought with errors.

Another problem with the above approaches is that they are based on patient populations, and their applicability to individual patients is unknown. Whereas percentage response, success, satisfaction, etc. hold true for study populations, these statistics do not hold true for individuals. For individuals, the relevant statistics are either zero or 100%: they respond or don’t; they live or die; they are satisfied or not. Generally, there is nothing in these methodologies that determines who (i.e., which specific individual) in a study population is the responder, survivor, etc. Consequently, these methodologies are relatively useless when practiced prospectively at the individual patient’s side. Paradoxically, these approaches are used retrospectively in individual cases by quality improvement committees to conclude poor-quality health care. These committees forget that hindsight is infinitely superior to foresight.

For the reasons given above, a specific quality health care definition must be usable at the patient’s side, and, in spite of major gaps, must incorporate as much medical science as may be relevant. The following specific definition developed during 25 years of medical practice and teaching has proven useful in assessing and promoting quality health care:

- A. The health care delivered must be indicated and efficacious for both the specific and general condition(s) present.
- B. The risk-to-benefit ratios must be reasonably minimized.
- C. The health care delivered must be cost efficient.
- D. Patient expectations must be met.

The amount of indicated and *not* efficacious health care delivered is remarkable and disconcerting. Antibiotics for viral syndromes, unproven or outmoded therapies, unsubstantiated off-label drug use, and new procedures with unknown efficacy are just some. As remarkable and distressing is the amount of indicated and efficacious care for specific conditions that completely ignores the usually more significant general condition(s). Advanced life-support interventions indicated for specific condi-

tions are not uncommon in patients terminally ill and near death from their general condition(s). Since the overall benefit of such care is generally zero, the general risk-to-benefit ratio is maximized, i.e., infinite!

That risk-to-benefit ratios must be reasonably minimized is a given. Nevertheless, it needs to be kept in mind that being more aggressive or invasive is sometimes less risky than being conservative or noninvasive. Spinal anesthesia may be riskier than general anesthesia. Not mechanically ventilating an early ventilatory failure patient may be riskier than treating the patient without interventions. Also, it is the patient’s risk-to-benefit assessment—not the provider’s—that must determine the health care delivered.

Cost efficiency means, for example, that if treatment can be provided for \$500, spending \$1000 doesn’t make it better. The major culprit in cost inefficiency is the location of service, with too many services still being provided in hospitals. Many of these services can be provided as easily, more conveniently (for the patient), and possibly more safely at alternative, more cost-efficient locations. Too frequently the choice of treatment location is for the convenience of the provider. The economic costs of these provider conveniences are staggering.

Finally, meeting the patient’s expectation is an absolute requirement. This means being completely honest with patients. This honesty includes informing patients that their expectations cannot be medically met when they cannot, informing patients that there is no indicated and efficacious health care when there is none, and informing patients that treatment of specific conditions will not change the ultimate outcome due to the general condition(s). It means helping a patient decide if the risks are worth the benefits using the patient’s value system. Finally, it includes leading and facilitating dying according to the patient’s death wishes. Complete honesty with patients is heroic and requires acts of courage. Honesty checks should be part of our own medical documentation evaluation. If we read what we document and it is not completely honest, we should go back to the patient (or proxy) and try again.

Regardless of what methodology or definition of quality health care is used, it must be kept in mind that every patient is different. Thus, mass customization of health care rather than novelty health care for each patient is the key to achieving quality. Ultimately, the answer to the question “Should it be done?” rather than “Can it be done?” will determine what quality health care is and is not.

—FIDEL DAVILA, MD
CIGNA HealthCare of Texas, Irving, Texas

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